

Remarks

Claims 35-46 are pending and rejected. Claims 36, 39, 42, and 45 are amended. Applicant respectfully requests allowance of claims 35-46.

The prior amendment is objected to under 35 U.S.C. §132 for introducing new matter in new claims 36, 39, 42, and 45. In claims 35 and 38, a first adaptor assembly receives a first SONET signal that has section overhead information, line overhead information, and a payload. The first adaptor assembly terminates the section overhead information and the line overhead information. The first adaptor assembly then transfers the terminated section overhead information, the terminated line overhead information, and the payload. A second adaptor assembly receives the terminated section overhead information, the terminated line overhead information, and the payload. The second adaptor assembly generates a second SONET signal having the terminated section overhead information, the terminated line overhead information, and the payload. The second adaptor assembly transfers the second SONET signal.

In the specification, the first SONET signal is represented by a secondary communication signal that is transferred from multiplexer 106 to assembly 108. (See the Application, page 7, lines 6-9). The second SONET signal is represented by another secondary communication signal that is transferred from assembly 110 to multiplexer 112. (See the Application, page 7, line 27 to page 8, line 1). The transfer of the terminated overhead information between assembly 108 and assembly 112 is represented by a transport communication signal. (See the Application, page 7, lines 25-27). This transport communication signal includes a primary communication signal having overhead and payload. The terminated section and line overhead information are hidden in the overhead of the primary communication signal to create a transport overhead for the transport communication signal. (See the Application, page 7, lines 17-23). Thus, the specification clearly discloses a first adaptor assembly that transfers the terminated section and line overhead information in the overhead of a third SONET signal.

Claims 36 and 39 state that this transfer comprises adding the terminated section overhead information and the terminated line overhead information to unused overhead space of the third SONET signal. The addition of the terminated section and line

overhead information to unused overhead space in the third SONET signal is disclosed in the application on page 8, lines 7-16. Furthermore, this addition of the terminated overhead information to unused overhead space is clearly illustrated with reference to Figure 2 and its corresponding text from page 8, line 27 to page 9, line 11.

Additional disclosure for adding the terminated overhead information to unused overhead space is provided in the detailed discussion of adaptor assembly 108 that starts on page 9, line 25. Assembly 108 receives primary and secondary communication signals, which can be SONET or SDH signals. (See the Application, page 9, line 21 to page 10, line 3; and page 10, lines 26-28). Assembly 108 analyzes the overhead in the primary signal to find unused space for the terminated overhead information from the secondary signal. (See the Application, page 10, lines 13-19). Assembly 108 adds the terminated overhead information from the secondary signal to the unused overhead space in the primary signal to form the transport overhead. (See the Application, page 11, lines 20-25). The transport overhead, with the terminated overhead information in unused space, is combined with a payload to form the transport communication signal that is transferred from assembly 108. (See the Application, page 11, lines 26-29).

Thus, the specification clearly discloses that the first assembly adds the terminated section and line overhead information to unused overhead space in the third SONET signal. With respect to claims 42 and 45, the specification clearly discloses that the above technique for SONET signals may be used for the regenerator section overhead and multiplexer section overhead of SDH signals. (See the Application, page 9, lines 12-24; and Figure 3).

Applicants have clarified claims 36, 39, 42, and 45 by amendment. In the specification, unused space in the overhead of the primary signal is used to hide the terminated overhead. Since the primary signal overhead is used to create the transport overhead, it is also true that unused space in the transport overhead is used to hide the terminated overhead. To prevent confusion between the primary overhead versus the transport overhead, the term "transport" has been removed from claims 36, 39, 42, and 45. In claims 36, 39, 42, and 45, the terminated overhead is added to unused overhead space of the third signal – regardless of whether that unused space is in the primary signal overhead, transport overhead, or some other overhead in the signal.

Claims 36, 39, 42, and 45 are rejected under 35 U.S.C. §112 for lacking a written description. Applicants traverse this rejection for the reasons given above.

Claims 41-42 and 44-45 are rejected under 35 U.S.C. §102(e) over U.S. Patent 5,600,648 (Furuta). The recent Office Actions apparently confuse overhead information with the overhead fields that carry the overhead information. Consider the following example. Node A generates signal A by placing overhead information into the overhead fields of signal A. Node A transfers signal A to node B. Node B terminates some of the overhead – meaning that node B removes some of the overhead information from the overhead fields, and places new overhead information in the overhead fields. Node B transfers signal B, where signal B has the same overhead fields as signal A, but the overhead fields in signal B have different overhead information.

If node B operated according to the invention, it would transfer the new overhead information in the overhead fields, but it would also transfer the terminated overhead information through some other means. In some examples, the node B would transfer the terminated overhead information in unused overhead space in signal B.

Please note that the above example is provided to illustrate the difference between overhead information and overhead fields in the context of termination. The above example is not a recitation of claim limitations.

In the claims, a first signal is received, and overhead information in the first signal is terminated – meaning that the overhead information is removed from the overhead fields and possibly replaced. This terminated overhead information is still transferred downstream, so it can be used to rebuild the first signal.

In the prior art (including Furuta), terminated overhead information is replaced with new overhead information, so the terminated overhead information is not transferred downstream. Thus in the prior art, the downstream signal has the same payload and the same overhead fields, but different overhead information would be in the overhead fields. The terminated overhead information would not be available to rebuild the first signal.

Furuta provides a mechanism for inspecting the path overhead information at nodes between the end nodes that terminate the path overhead. (See Furuta, column 1, lines 25-

30). Furuta teaches the transfer of path overhead information that was inspected, but this is different from transferring path overhead that was *terminated*.

Furuta teaches how overhead *fields* are multiplexed together to form a complex SDH signal. This multiplexing structure is important to Furuta, because the multiplexing structure is used to locate the path overhead for inspection.

Furuta does not teach *terminating* regenerator and multiplexer section overhead information, and then *transferring* the *terminated* regenerator and multiplexer section overhead information. Rather, Furuta teaches how the regenerator and multiplexer section overhead *fields* are multiplexed.

Applicant emphasizes that in the prior art, terminated overhead information is not transferred, but is replaced. Applicants respectfully request that the Examiner cite passages in Furuta that teach that *terminated* overhead information is transferred, even though the terminated overhead information has been replaced with new overhead information. Previous Office Actions have only cited passages in Furuta that merely disclose the multiplexing structure of the overhead *fields* that carry the overhead information.

Claims 35-40, 43, and 46 are rejected under 35 U.S.C. §103(a) over U.S. Patent 5,600,648 (Furuta) in view of U.S. Patent 5,416,768 (Jahromi). Claims 35-40, 43, and 46 are patentable for the reasons given above. Jahromi does not teach the above cited claim requirements.

Applicants submit that there are numerous additional reasons in support of patentability, but that such reasons are moot in light of the above remarks and are omitted in the interests of brevity. Applicants respectfully request allowance of claims 35-46.



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